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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,513

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Takao Ikuno

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EXAMINER

RUST, ERIC A

ART UNIT

PAPER NUMBER

2625

MAIL DATE

DELIVERY MODE

11/28/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,513	IKUNO ET AL.	
	Examiner	Art Unit	
	ERIC A. RUST	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1,4-7,10-13 and 16-19 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1,4-7,10-13 and 16-19 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. In the Amendment filed on August 18, 2011, Applicants amended claims 1, 7, and 13, and added claims 18-19. Accordingly, claims 1, 4-7, 10-13, and 16-19 are pending.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1 and 18-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In regard to claim 1, the claim defines an apparatus. However the body of the claim lacks definite structure indicative of a physical apparatus. Furthermore, the specification indicates that the invention may be embodied as pure software (see specification at, for example, pg. 26, lines 2-5). Therefore, the claim as a whole appears to be nothing more than an “apparatus” of software elements, thus defining functional descriptive material per se.

Functional descriptive material may be statutory if it resides on a “non-transitory computer-readable medium or computer-readable memory”. The claim(s) indicated above lack structure, and do not define a computer readable medium and are thus non-statutory for that reason. When functional descriptive material is recorded on some

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non-transitory computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program.

The examiner recommends:

1. Amending the claim(s) to embody the program on “non-transitory computer-readable medium” or equivalent; assuming the specification does NOT define the computer readable medium as a “signal”, “carrier wave”, or “transmission medium” which are deemed non-statutory; or

2. Adding structure to the body of the claim(s) that would clearly define a statutory apparatus.

Any amendment to the claim(s) should be commensurate with its corresponding disclosure.

Claims 18-19 depend from claim 1 and fail to overcome the rejection of claim 1, and are therefore rejected for the same reason.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 7, 13, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,943,508 to Penney et al. (hereinafter, Penney) in view of Applicant Admitted Prior Art (hereinafter, AAPA).

In regard to claims 1, 7, and 13, Penney discloses an image processing apparatus (**Penney, Fig. 1, and col. 1, lines 49-52**) comprising:

a predetermined number of code converting units (**Penney, Fig. 1, item 14**), each code converting unit configured to execute coding and decoding of image data, wherein the predetermined number of code converting units includes reserved code converting units and non-reserved code converting units, such that the number of reserved code converting units is less than the number of all code converting units (**Penney, col. 2, lines 19-22, and 47-53**);

a plurality of request-source task units (**Penney, Fig. 1, item 11**), the number of request-source task units being greater than the number of code converting units (**Penney, col. 2, lines 13-15**) and having priorities set in advance (**Penney, col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority with the other sources having lower priority**); wherein each request-source task unit having a high priority reserves one of the reserved code converting units (**Penney, col. 2, lines 47-53**), and each request-source task unit having a low priority competes for at least one of the non-reserved code converting (**Penney, Fig. 1, and col. 2, lines 47-57, one of item 14 is reserved, and there are more items 11 than there are items 14,**

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accordingly, they would have to compete), the number of non-reserved code converting units being less than the number of request-source task units having the low priority (**Penney, Fig. 1, there are more items 11 than there are items 14**); and

an assigning unit (**Penney, Fig. 1, item 18**) configured to assign:

i. when one of the plurality of request-source units having the high priority, the code converting unit reserved by the request-source task unit to a task corresponding to the request-source task unit (**Penney, col. 2, lines 47-57, resource manager 18**

assures that one of the decoders I coupled to the output for a certain task), and

ii. when one of the plurality of request-source units having the low priority and one of the plurality of non-reserved code converting units is an idle code converting unit, the idle code converting unit to the task corresponding to the request-source task unit that issued the processing request (**Penney, col. 3, lines 13-16, and 46-52, assigned as needed**).

Penney does not disclose wherein the plurality of request-source task units are configured to issue a processing request.

AAPA, however, discloses code processing units being requested to execute processing (**AAPA, pg. 2, lines 9-14**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Penny with the teachings of AAPA for having the plurality of request-source task units issue the processing request in order to ensure data is processed when needed and when able. That is, the request would ensure that data is sent when the code converting units are available, and that data would not be

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sent if the code converting units were not available. In this way, data would not be lost. This increases user satisfaction.

In regard to claim 18, which depends from claim 1, AAPA and Penney disclose wherein when the processing request is received from one of the plurality of request-source task units having the low priority and none of the plurality of non-reserved code converting units is an idle code converting unit, the request-source task unit stands by, such that the assigning unit does not assign a code converting unit to the task corresponding to the request-source task unit until one of the plurality of non-reserved code converting units becomes an idle converting unit, regardless of whether one of the plurality of reserved code converting units is an idle code converting unit (**AAPA, pg. 2, lines 9-14, and Penney, Fig. 1, and col. 2, lines 47-57, one of item 14 is reserved, and there are more items 11 than there are items 14, accordingly, they would have to compete, if none of 14 are available, then 12 has to wait (i.e., be in an idle state))**).

In regard to claim 19, which depends from claim 1, AAPA and Penney disclose wherein each request-source task unit having a high priority reserves one of the reserved code converting units before issuing the processing request (**AAPA, pg. 2, lines 9-14, and Penney, Fig. 1, and col. 2, lines 47-57**).

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6. Claims 4, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Penney and AAPA in view of U.S. Patent No. 6,587,735 B1 to Yaguchi.

In regard to claims 4, 10, and 16, which depend from claims 1, 7, and 13, respectively, neither Penney nor AAPA disclose wherein said predetermined code converting units constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware, and when the processing request is received from one of the plurality of request-source units, said assigning unit assigns one of said software-implemented code converting units to the task according to the request-source task unit the issued the processing request.

Yaguchi, however, discloses wherein said predetermined code converting units constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware (**Yaguchi, col. 18, lines 58-61, and AAPA, pg. 2, lines 9-14**); and when the processing request is received from one of the plurality of request-source units, said assigning unit assigns one of said software-implemented code converting units to the task according to the request-source task unit the issued the processing request (**Yaguchi, col. 19, lines 32-34, and AAPA, pg. 2, lines 9-14**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Yaguchi with the teachings AAPA and Penney for having code converting units constituted by software-implemented code converting units

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for executing code conversion by software and hardware-implemented code converting units for executing code conversion by hardware; and said assigning unit assigns said software-implemented code converting units to the processing requests of the request-source task units in order to execute data at high speed and in order to select the optimum processor at processing time (**Yaguchi, col. 1, lines 54-63**).

7. Claims 5-6, 11-12, and 17 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Penney, AAPA, and Yaguchi, in view of U.S. Patent Application Publication No. 2005/0047666 A1 to Mitchell et al. (hereinafter, Mitchell).

In regard to claims 5, 11, and 17, which depend from claims 4, 10, and 16, respectively, Penney discloses wherein said request-source task units having the high priority are classified into a first unit group processed and a second unit group (**Penney, col. 2, lines 62-64, the “advance assignment”**).

Moreover, Yaguchi discloses a first unit group being processed by software-implemented code converting units (**Yaguchi, col. 18, line 58 - col. 19, line 36, the first group is processing that requires more than a predetermined time, see specifically, Yaguchi, col. 19, lines 21-26, and lines 27-34**) and a second unit group processed by hardware-implemented code converting units (**Yaguchi, col. 18, line 58 - col. 19, line 36, the second group is processing that requires less than a predetermined time, see specifically, Yaguchi, col. 19, lines 21-26**).

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Neither Yaguchi, AAPA, nor Penney specifically disclose the second unit group processed by said hardware-implemented code converting units via said software-implemented code converting units.

Mitchell, however, discloses tasks being processed by hardware-implemented code converting units via software-implemented code converting units (**Mitchell, Abstract, lines 9-13**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Mitchell with the teachings of Yaguchi, AAPA, and Penney for having tasks being processed by hardware-implemented code converting units via software-implemented code converting units in order to prepare data for non-compliant hardware decoders (**Mitchell, Abstract, lines 11-13**).

In regard to claims 6 and 12, which depend from claims 5 and 11, respectively, Yaguchi discloses wherein said hardware-implemented code converting units are adapted so as to be used by the request-source task units of said second unit group (**Yaguchi, col. 19, lines 21-26, processing that requires less than a predetermined time is processed by hardware, accordingly, said hardware-implemented code converting units are adapted so as to be used by the request-source task units of said second unit group**).

Response to Arguments

8. On pages 10-12 of the Amendment, Applicants discuss the details of the claimed invention. On page 13 of the Amendment, Applicants argue that Penney does not disclose the plurality of request-source task units having priorities set in advance.

The Examiner has considered this argument carefully, but does not agree. In Penney at col. 2, lines 47-53, one of the outputs of the input matrix is assigned to one of the input sources, the Examiner interprets this source as having a high priority with the other sources having lower priority. This assignment would be made at least in advance of sending the data and requesting the data be sent. Moreover, in Penney at col. 2, lines 60-65, advance assignment is further discussed.

On pages 14-16 of the Amendment, Applicants discuss why the remaining cited references do not disclose the deficiencies of Penney.

Furthermore, Applicants' amendment necessitated the 35 U.S.C 101 rejection of claims 1 and 18-19 presented above.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC A. RUST whose telephone number is (571)-270-3380. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571)-272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-270-4380.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/ERIC A. RUST/

Examiner, Art Unit 2625

11/18/2011

/Benny Q Tieu/

Supervisory Patent Examiner, Art Unit 2625